

Amendments to the Specification:

On page 1, after the title, insert the following new paragraph and subheadings:

CROSS-REFERENCE TO RELATED APPLICATION

This application is the U.S. national phase of PCT Appln. No. PCT/EP2004/009792 filed September 2, 2004, which claims priority to German application 103 42 042.8 filed September 11, 2003.

BACKGROUND OF THE INVENTION

1. Field of the Invention

Please insert the following subheading on page 1, prior to the second full paragraph, as shown below:

2. Description of the Related Art

Please insert the following subheading on page 2, prior to the fourth full paragraph, as shown below:

SUMMARY OF THE INVENTION

Please insert the following subheading, three paragraphs, and subheading on page 3, prior to the first full paragraph, as shown below:

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 shows an SEM image of an SiO₂ green body coated with Si₃N₄ powder.

FIGURE 2 shows an SEM image of an SiO_2 shaped body with an Si_3N_4 sintered layer after the process according to the invention has been carried out. Points at which the formation of sintered necks are visible are marked by arrows.

FIGURE 3 shows the X-ray diffractometer spectrum (XRD) for an SiO_2 shaped body with an Si_3N_4 sintered layer after the process according to the invention has been carried out.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Please amend the paragraph beginning on page 3, at line 27, as shown below:

All commercially available powders (for example those produced by H.C. Stark) can be used as the Si_3N_4 powder. ~~Particularly~~ In particular, fine-grained Si_3N_4 powders with a grain size of between 100 nm and 100 [$\mu\text{m},$] μm are preferably used, ~~particularly~~ more preferably those with a grain size of between 100 nm and 50 μm , and ~~very particularly~~ most preferably those with a grain size of between 100 nm and 10 μm .

Please amend the paragraph beginning on page 4, at line 23, as shown below:

The Si_3N_4 powder layer obtained in this way generally has a layer thickness of from 1 to 1000 μm , preferably a layer thickness of from 1 to 500 μm and ~~particularly~~ most preferably of from 1 to 100 μm . Fig. 1 shows a corresponding coated surface.

Please amend the paragraph beginning on page 5, at line 3, as shown below:

The irradiation is preferably carried out with a radiation power density of from 50 W to 500 W per square centimeter, ~~particularly~~ more preferably from 100 to 200 and ~~very particularly~~ most preferably from 130 to 180 W/cm^2 . The power per cm^2 must be at least sufficient to form an Si_3N_4 sintered layer. The formation of the Si_3N_4 sintered layer preferably

takes place at a temperature of between 1000°C and 1600°C, ~~particularly~~ more preferably between 1000°C and 1200°C.

Please amend the paragraph beginning on page 6, at line 16, as shown below:

Incorporating this temperature measurement into the overall system of laser and moving green body furthermore allows one or more of the process variables: laser power, displacement travel, displacement speed, and laser focus, to be ~~adapted~~ varied during the laser irradiation of the green body, in such a way that it is possible to produce a uniform Si₃N₄ sintered layer (Figs. 2 and 3).

Please amend the paragraph beginning on page 6, at line 29, as shown below:

The formation of the Si₃N₄ sintered layer ~~may~~ is preferably ~~be~~ carried out under a reduced pressure or vacuum throughout the entire process.

Please amend the paragraph beginning on page 7, at line 2, as shown below:

If the process is carried out under a reduced pressure, the pressure is below standard pressure of 1013.25 mbar, and is ~~particularly~~ more preferably between 0.01 and 100 mbar, ~~very particularly~~ most preferably between ~~0.01~~ 0.01 and 1 mbar. In a preferred embodiment, it is also possible to carry out the process in vacuo (< 10⁻³ mbar), in order to produce layers which are completely free of bubbles.

Please amend the paragraphs beginning on page 8, at line 2 and ending on page 8, line 10, as shown below:

~~Fig. 1 shows an SEM image of an SiO₂ green body coated with Si₃N₄ powder.~~

~~Fig. 2 shows an SEM image of an SiO_2 -shaped body with an Si_3N_4 -sintered layer after the process according to the invention has been carried out. Points at which the formation of sintered necks are visible are marked by arrows.~~

~~Fig. 3 shows the X-ray diffractometer spectrum (XRD) for an SiO_2 -shaped body with an Si_3N_4 -sintered layer after the process according to the invention has been carried out.~~